

DPM 14 417

DPS 3.27 - 1

U.S. DEPARTMENT OF LABOR
WORKPLACE STANDARDS ADMINISTRATION
Bureau of Labor Standards

Lally
Beck

COPY

MATERIAL SAFETY DATA SHEET

SECTION I	
MANUFACTURER'S NAME THE IRWIN-HODSON COMPANY/Marking Systems Division	EMERGENCY TELEPHONE NO. (503) 232-9122
ADDRESS (Number, Street, City, State, and ZIP Code) 725 S.E. Powell Bv. Portland, OR 97202	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS No. 15 Drimarquette Ink
CHEMICAL FAMILY DPM 14 417	FORMULA

SECTION II HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Cresylic Acid (Cresol)				40	5 ppm
Aniline				18	5 ppm
Methyl				18	200 ppm

SECTION III PHYSICAL DATA			
BOILING POINT (°F.) (Initial) Approx.	150° F	SPECIFIC GRAVITY (H ₂ O=1)	1.05
VAPOR PRESSURE (mm Hg.)	?	PERCENT VOLATILE BY VOLUME (%) approx.	18
VAPOR DENSITY (AIR=1)	?	EVAPORATION RATE (_____=1)	?
SOLUBILITY IN WATER	partial		
APPEARANCE AND ODOR	black liquid, phenolic odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	PM closed cup 100° F.	FLAMMABLE LIMITS	Lel Uel
EXTINGUISHING MEDIA	Carbon dioxide or dry chemical		
SPECIAL FIRE FIGHTING PROCEDURES	none		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vigorous reaction to strong oxidizing agents		

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

See attached data on

Cresole, aniline and Methanol

EMERGENCY AND FIRST AID PROCEDURES

SECTION VI REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

flushing with water

scrubbing with alkaline detergents

WASTE DISPOSAL METHOD

as recommended for cresols

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

none

VENTILATION

LOCAL EXHAUST

SPECIAL

normal

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES

recommended

EYE PROTECTION

avoid contact with liquid

OTHER PROTECTIVE EQUIPMENT

none

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid excessive breathing of vapors

and contact with eyes and skin

OTHER PRECAUTIONS

TO:

SUBJECT:

REF. NO.:

PAGE:

GLYCERINE

General Information

Synonyms: 1,2,3-Propanetriol; glycerol.

Description: Colorless or pale yellow liquid; odorless and syrupy; sweet and warm taste.

Formula: $\text{CH}_2\text{OHCHOHCH}_2\text{OH}$.

Constants: Mol wt: 92.09, mp: 17.9°C (solidifies at a much lower temperature), bp: 290°C, ulc: 10-20, flash p: 320°F, d: 1.260 at 20°/4°C, autoign. temp.: 739°F, vap. press.: 0.0025 mm at 50°C, vap. d.: 3.17.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 1; Ingestion 1.

Acute Systemic: Ingestion 1.

Chronic Local: 0.

Chronic Systemic: 0.

Toxicity: A general purpose food additive, it migrates to food from packaging materials (Section 10).

Fire Hazard: Slight, when exposed to heat, flame or powerful oxidizers.

Countermeasures

To Fight Fire: Alcohol foam, water, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).

Personal Hygiene: Section 3.

Storage and Handling: Section 7.

HYDROCHLORIC ACID

General Information

Synonyms: Muriatic acid; chlorohydric acid; hydrogen chloride.

Description: Colorless gas or colorless, fuming liquid; strongly corrosive.

Formula: HCl.

Constants: Mol wt: 36.47, mp: -114.3°C, bp: -84.8°C, d: 1.639 g/liter (gas) at 0°C; 1.194 at -36°C (liquid), vap. press.: 4.0 atm at 17.8°C.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 3; Ingestion 3; Inhalation 3.

Acute Systemic: U.

Chronic Local: Irritant 2.

Chronic Systemic: U.

TLV: ACGIH (recommended); 5 parts per million in air; 7 milligrams per cubic meter of air.

Toxicology: Hydrochloric acid is an irritant to the mucous membranes of the eyes and respiratory tract, and a concentration of 35 ppm causes irritation of the throat after short exposure. Concentrations of 50 to 100 ppm are tolerable for 1 hour. More severe exposures result in pulmonary edema, and often laryngeal spasm. Concentrations of 1,000 to 2,000 ppm are dangerous, even for brief exposures. Mists of hydrochloric acid are considered less harmful than the anhydrous hydrogen chloride, since the droplets have no dehydrating action. In general, hydrochloric acid causes little trouble in industry, other than from accidental splashes and burns. It is used as a general purpose food additive (Section 10). It is a common air contaminant (Section 10).

Disaster Hazard: Dangerous; see chlorides; will react with water or steam to produce toxic and corrosive fumes.

Countermeasures

Ventilation Control: Section 2.

Personnel Protection: Section 3.

Storage and Handling: Section 7.

First Aid: Section 1.

Shipping Regulations: Section 11.

I.C.C.: Corrosive liquid; white label, 10 pints.

Coast Guard Classification: Corrosive liquid; white label.

Coast Guard (anhydrous) Classification: Nonflammable gas; green gas label.

MCA warning label.

IATA: Corrosive liquid, white label, 1 liter (passenger), 5 liters (cargo).

METHYL ALCOHOL

General Information

Synonyms: Methanol.

Description: Clear colorless very mobile liquid.

Formula: CH_3OH .

Constants: Mol wt: 32.04, bp: 64.8°C, lel: 7.3%, uel: 36.5%, fp: -97.8°C, flash p: 52°F, d: 0.7913 at 20°/4°C, autoign. temp.: 867°F, vap. press.: 100 mm at 21.2°C, vap. d.: 1.11.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 1; Inhalation 1.

Acute Systemic: Ingestion 3; Inhalation 2; Skin Absorption 2.

Chronic Local: Irritant 1; Inhalation 1.

Chronic Systemic: Ingestion 2; Inhalation 2; Skin Absorption 2.

TLV: ACGIH (recommended); 200 parts per million in air; 262 milligrams per cubic meter of air.

Toxicology: Methyl alcohol possesses distinct narcotic properties. It is also a slight irritant to the mucous membranes. Its main toxic effect is exerted upon the nervous system, particularly the optic nerves and possibly the retinae. The effect upon the eyes has been attributed to optic neuritis, which subsides but is followed by atrophy of the optic nerve. Once absorbed, methyl alcohol is only very slowly eliminated. Coma resulting from massive exposures may last as long as 2 to 4 days. In the body the products formed by its oxidation are formaldehyde and formic acid, both of which are toxic. Because of the slowness with which it is eliminated, methyl alcohol should be regarded as a cumulative poison. Though single exposures to fumes may cause no harmful effect, daily exposure may result in the accumulation of sufficient methyl alcohol in the body to cause illness.

Severe exposures may cause dizziness, unconsciousness, sighing respiration, cardiac depression, and eventually death. Where the exposure is less severe, the first symptoms may be blurring of vision, photophobia and conjunctivitis, followed by the development of definite eye lesions. There may be headache, gastrointestinal disturbances, dizziness and a feeling of intoxication. The visual symptoms may clear temporarily, only to recur later and progress to actual blindness. Irritation of the mucous membranes of the throat and respiratory tract, peripheral neuritis, and occasionally, symptoms referable to other lesions of the nervous system have been reported. The skin may become dry and cracked due to the solvent action of methyl alcohol.

Methyl alcohol is a common air contaminant (Section 4). It is used as a food additive permitted in foods for human consumption. Section 10.

Fire Hazard: Dangerous, when exposed to heat or flame.

Spontaneous Heating: No.

Explosion Hazard: Moderate, when exposed to flame.

Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.

Countermeasures

Ventilation Control: Section 2.

To Fight Fire: Carbon dioxide, dry chemical, or carbon tetrachloride (Section 6).

Personnel Protection: Section 3.

Storage and Handling: Section 7.

Shipping Regulations: Section 11.

I.C.C.: Flammable liquid; red label, 10 gallons.

Coast Guard Classification: Inflammable liquid; red label.

MCA warning label.

IATA: See Alcohol, N.O.S.



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TO:
SUBJECT:
REF. NO.:

PAGE:

For your information, the following are data on the ingredients which are considered hazardous to any degree. These are copies from "Dangerous Properties of Industrial Materials, 3rd Edition" by N. Irving Sax.

CRESOL

General Information

Synonyms: Cresylic acid, cresylol, tricresol.

Description: (U.S.P. XVI) mixture of isomeric cresols obtained from coal tar; colorless or yellowish to brown yellow or pinkish liquid, phenol-like odor.

Formula: $C_6H_5OHCH_3$.

Constants: Mol wt: 108.10, mp: 10.9-35.5°C, bp: 191-203°C, flash p: 110°F, d: 1.030-1.038 at 25°/25°C, vap. press.: 1 mm at 38-53°C, vap. d.: 3.72.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 2; Allergen 1; Ingestion 2; Inhalation 2.

Acute Systemic: Ingestion 2; Inhalation 2; Skin Absorption 2.

Chronic Local: Irritant 3; Allergen 1.

Chronic Systemic: Ingestion 2; Inhalation 2; Skin Absorption 2.

TLV: ACGIH (accepted); 22 milligrams per cubic meter of air; 5 parts per million in air. May be absorbed via intact skin.

Toxicology: Cresol is similar to phenol in its action on the body, but it is less severe in its effects. It has corrosive action on the skin and mucous membranes. Systemic poisoning has rarely been reported, but it is possible that absorption may result in damage to the kidneys, liver and nervous system. The main hazard accompanying its use in industry lies in its action on the skin and mucous membranes, with production of severe chemical burns and dermatitis (Section 9).

Fire Hazard: Moderate, when exposed to heat or flame.

Explosion Hazard: Slight, in the form of vapor when exposed to heat or flame (Section 7).

Explosive Range: 1.35% at 300°F.

Disaster Hazard: Dangerous; when heated to decomposition, it emits highly toxic fumes; it can react vigorously with oxidizing materials.

Countermeasures

Ventilation Control: Section 2.

Personnel Protection: Section 3.

First Aid: Section 1.

Storage and Handling: Section 7.

To Fight Fire: Foam, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).

Shipping Regulations: Section 11.

Coast Guard Classification: Inflammable liquid.

MCA warning label.

IATA (liquid: Poison B, poison label, 1 liter (passenger), 220 liters (cargo).

ANILINE

General Information

Synonyms: Phenylamine; aminobenzene; aniline oil.

Description: Colorless, oily liquid.

Formula: $C_6H_5NH_2$.

Constants: Mol wt: 93.12, bp: 184.4°C, lcl: 1.3%, alc: 20-25, flash p: 158°F (C.C.), fp: -6.2°C, d: 1.02 at 20°/4°C, autoign. temp.: 1418°F, vap. press.: 1 mm at 34.8°C, vap. d: 3.22.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Allergen 2.

Acute Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.

Chronic Local: Allergen 2.

Chronic Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.

TLV: ACGIH (recommended); 5 parts per million in air; 19 milligrams per cubic meter of air. Absorbed via the skin.

Toxicology: The most important action of aniline on the body is the formation of methemoglobin, with the resulting anoxemia and depression of the central nervous system. Some investigators believe that aniline may also have a direct toxic action, resulting in a fall in blood pressure and cardiac arrhythmia. In acute exposures, which usually result from spilling the liquid on the skin and clothes, but which may also follow the inhalation of the vapor given off when aniline is heated, the signs are of methemoglobinemia and anoxemia. In less acute exposure which has been prolonged over some weeks or months, there is usually hemolysis of the red blood cells, followed by stimulation of the bone marrow and attempts at regeneration. The red cells may show stippling; immature cells may be present. The white blood cells usually show little change either in number or morphology. The liver may be affected, with production of jaundice. The urine is frequently dark brown or wine colored, and may contain hemoglobin, hematoporphyrin, and in some cases, excretion products of aniline, such as p-aminophenol. Long continued employment in the manufacture of aniline dyes has been associated with the development of papillomatous growths of the bladder, some of which became malignant. Aniline itself has not been proven to be a carcinogen, but the intermediates benzedine and naphthylamines have been incriminated. See α -1 and β -naphthylamine. Note: A common air contaminant (Section 4).

Caution: Mild sensitizer. Local contact may cause contact dermatitis (Section 9).

Fire Hazard: Moderate, when exposed to heat or flame.

Spontaneous Heating: No.

Disaster Hazard: Dangerous; when heated to decomposition, it emits highly toxic fumes; can react vigorously with oxidizing materials.

Countermeasures

Ventilation Control: Section 2.

To Fight Fire: Alcohol foam, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).

Personnel Protection: Section 3.

First Aid: Section 1.

Storage and Handling: Section 7.

Shipping Regulations: Section 11.

I.C.C. Classification: Poison B; poison label.

Coast Guard Classification: Poison B; poison label.

TOXIC HAZARD RATING CODE (For detailed discussion, see Section 1.)

0 NONE: (a) No harm under any conditions; (b) Harmful only under unusual conditions or overwhelming dosage.

1 SLIGHT: Causes readily reversible changes which disappear after end of exposure.

2 MODERATE: May involve both irreversible and reversible changes, not severe enough to cause death or permanent injury.

3 HIGH: May cause death or permanent injury after very short exposure to small quantities.

U UNKNOWN: No information on humans considered valid by authors.



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